

# PATENT SPECIFICATION

DRAWINGS ATTACHED

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## COMPLETE SPECIFICATION

### Improvements in or relating to Pipe Mountings

We, WILMOT-BREEDEN LIMITED, a British Company, of Amington Road, Birmingham, 25, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to mountings for pipes and pipe fittings, and is of particularly advantageous application to the mounting of rainwater goods such as downspouts and fittings on the walls of buildings.

Of recent years rainwater goods moulded from synthetic plastic material, normally rigid polyvinyl-chloride, have come into use, and the main object of the invention is to provide for such goods a convenient mounting which can also be moulded from the same material.

To this end a mounting according to the invention comprises two parts moulded from a synthetic plastic material; namely a generally saddle-shaped mounting bracket formed for fixing to a wall or other mounting surface and having opposed resilient limbs formed with apertures or internal recesses, and a complementary mounting part moulded with opposed projecting ears or lugs which on fitting of the two parts together "snap" into said apertures or recesses to provide a firm mounting.

The mounting bracket conveniently has divergent limbs so that the inner surfaces thereof present a taper into which the complementary part fits, and that part is conveniently moulded with side faces providing a corresponding taper so that the tapered surfaces mate when the mounting is made. This provides a very firm and rigid mounting, and the ears or lugs may project from said side faces.

The bracket may have a single fixing hole which is conveniently countersunk to accom-

modate a fixing screw. Preferably the ears or lugs have a side taper providing a lead which forces the limbs of the mounting bracket apart with a wedging action as the mounting parts are fitted together prior to the ears or lugs snapping into position, whereupon the natural resilience of the limbs produces return movement thereof so that they grip the complementary part.

The parts are preferably so formed that a semi-permanent mounting is produced, in the sense that the two parts can be fitted together by hand but cannot thereafter be pulled apart without the use of a suitable tool. The complementary part may be formed with a shoulder which can be used to provide a fulcrum for a screwdriver or the like to spring the limbs of the bracket apart when it is desired to release the mounting, and a suitable recess may be formed at the outer end of each limb of the bracket for engagement by the screwdriver during this operation.

The complementary part may be moulded integrally with the pipe or fitting to be mounted. With rainwater goods the lengths of pipe are normally extruded and hence the complementary part cannot be moulded integrally therewith. However, the complementary part can be moulded integrally with a sleeve-like pipe connector by which two lengths of pipe are connected to form a continuous run, or with the usual fittings such as a "head", "bend" or "shoe". When it is necessary to provide a mounting for a length of pipe itself the complementary mounting part may be formed as a pipe clip which can be opened for fitting around the pipe prior to snapping into the corresponding mounting bracket. Such a clip may be moulded on its inner surface with a number of spaced inwardly projecting and thin webs which collapse

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as the clip is fitted round the pipe and ensure a satisfactory grip on the latter.

The invention will now be further described with reference to the accompanying drawings, which illustrate, by way of example, three embodiments of the invention. In the drawings:—

Figure 1 is a perspective view of a mounting bracket common to each of the embodiments,

Figures 2 and 3 are perspective views of complementary parts of two of the embodiments, and

Figure 4 is a side view showing the complementary part of the other embodiment.

Each embodiment consists of two parts, the mounting bracket 1 of Figure 1 which is the same in each case and a complementary part 2. In the embodiment of Figure 2 the complementary part 2 is moulded integrally with a rainwater pipe connector 3, in the embodiment of Figure 3 it is moulded in the form of a pipe clip, and in the other embodiment it is moulded integrally with a pipe fitting 3 known as a "shoe". The mountings are all moulded completely from a synthetic and resilient plastic material such as rigid polyvinylchloride.

The mounting bracket 1 is of saddle-shaped form with an intermediate limb 4 having a central countersunk hole 5 for a fixing screw by which it can be fixed to a wall or other mounting surface. The similar side limbs 6 of the bracket are slightly divergent to provide a taper within which the complementary part can be received, and each limb 6 has a through aperture 7 of rectangular shape which extends from a position set in from the outer edge of that limb to the intermediate limb 4. To provide a lead during fitting the inner edges of the outer ends of the side limbs 6 are smoothly reduced at 8.

In the embodiment of Figure 2 the pipe connector 3 having an upper sleeve section into which can be fitted a length of extruded plastic pipe, the sleeve portion having an external projection forming the complementary mounting part 2. A lower spigot portion 9 is dimensioned to fit within a length of extruded plastic pipe. Figure 2 is partly cut-away to show the projection in section, and it will be seen that it is of hollow box-like form providing adequate rigidity with light weight and good material utilisation. This part 2 has mutually inclined side faces such as 10 to provide a taper which mates with the aforesaid taper of the side limbs 6 of the mounting bracket 1, and each side face 10 has a projecting lug 12 which extends from the flat forward end of the complementary part 2.

Each lug 12 has a side taper and a radiused nose portion to provide a lead and so that when the two parts 1 and 2 are pushed together the side limbs 6 of the bracket 1 are urged apart with a wedging action until the lugs

12 are able to snap into the bracket recesses 7. When that happens the side limbs 6 return under the action of natural resilience to a position in which they grip the side faces 10 of the complementary part to provide a firm and rigid mounting, flat outer end faces 13 of the lugs 12 then engaging the outer edges of the recesses 7 to prevent withdrawal of the complementary part 2 from the bracket 1.

At each side of the complementary part 2 and from the side face 10 a shoulder 14 is moulded which, in the mounted position, is positioned close to the outer end 8 of the corresponding side limb 6 of the bracket 1. At that end the limb 6 has a central recess or slot 15 with an inwardly inclined base, and should it be desired to disconnect the mounting the blade of a screwdriver can be inserted in one of the slots 15 and the corresponding shoulder 14 used as a fulcrum to open the bracket 1 and release the complementary part 2. Thus the mounting is of a semi-permanent nature, in the sense that it can be assembled by hand and yet can only be released by use of a suitable tool.

The pipe clip of Figure 3 is in the form of a yoke 16 which can be opened to fit around the pipe, the ends 17 of the yoke being suitably thickened and formed so that when closed round the pipe (not shown) they provide a composite structure generally similar to that of the complementary part 2 already described. The inner bore of the clip is moulded with a number of spaced inwardly projecting webs such as 18 which collapse as the clip is closed around the pipe and act to ensure a firm grip on the latter.

The shoe 3 of Figure 4 has an integral projection, forming the complementary part 2, of the same form as the projection of the connector shown in Figure 2 and already described in conjunction therewith. The body of the shoe 3 itself is of conventional form, with a socketed upper end 19 in which a length of pipe to be terminated by the shoe can be received. To show this the view of Figure 4 is partly cut away and sectioned at that end.

#### WHAT WE CLAIM IS:—

1. A mounting for a pipe or pipe fitting comprising two parts moulded from a synthetic plastic material; namely a generally saddle-shaped mounting bracket formed for fixing to a wall or other mounting surface and having opposed resilient limbs formed with apertures or internal recesses, and a complementary mounting part moulded with opposed projecting ears or lugs which on fitting of the two parts together "snap" into said apertures or recesses to provide a firm mounting.

2. A mounting according to claim 1, wherein the mounting bracket has divergent limbs so

that the inner surfaces thereof present a taper into which the complementary part fits.

5 3. A mounting according to claim 2, wherein the complementary part is moulded with side faces providing a corresponding taper so that the tapered surfaces mate when the mounting is made.

4. A mounting according to claim 3, wherein said ears or lugs project from said side faces.

10 5. A mounting according to any of the preceding claims, wherein the mounting bracket has a single fixing hole.

6. A mounting according to any of the preceding claims, wherein the ears or lugs have a side taper providing a lead which forces the limbs of the mounting bracket apart as the mounting parts are fitted together.

15 7. A mounting according to any of the preceding claims, wherein the parts of the mounting can be fitted together by hand but cannot thereafter be pulled apart without the use of a suitable tool.

20 8. A mounting according to claim 7, wherein the complementary part is formed with a shoulder which can be used to provide a fulcrum for a suitable tool, such as a screwdriver, to spring the limbs of the bracket apart to release the mounting.

25 9. A mounting according to claim 8, wherein a recess is formed at the outer end of each bracket limb for engagement by the tool.

10. A mounting according to any of the preceding claims, wherein the complementary part is moulded integrally with a length of pipe.

35 11. A mounting according to any of claims 1 to 9, wherein the complementary part is moulded integrally with a tubular pipe connector.

12. A mounting according to any of claims 1 to 9, wherein the complementary part is formed as a pipe clip.

13. A mounting according to claim 12, wherein the pipe clip is moulded on its inner surface with inwardly projecting thin webs which collapse as the clip is fitted around the pipe and grip the latter when the mounting is made.

14. A mounting for a pipe or pipe fitting, constructed and arranged substantially as herein particularly described with reference to Figures 1 and 2, Figures 1 and 3, or Figures 1 and 4, of the accompanying drawings.

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